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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/642,061	08/18/2000	Blake Lewis	103.1035.01	6742

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EXAMINER

LE, MIRANDA

ART UNIT	PAPER NUMBER
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2177

DATE MAILED: 05/06/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/642,061	LEWIS ET AL.
Examiner	Art Unit	
Miranda Le	2177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 10 February 2003.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-8 and 24-35 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-8 and 24-35 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 10 February 2003 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,5.

4) Interview Summary (PTO-413) Paper No(s). _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____

DETAILED ACTION

1. This communication is responsive to Amendment A, filed 02/10/2003.
2. Claims 1-8, 24-35 are pending in this application. Claims 1, 4-9 are independent claims. In the Amendment A, claims 9-23 have been cancelled, claims 24-35 have been added, and claims 1-8 have been amended. This action is made Final.

Drawings

3. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 02/10/2003 have been approved, except for the following drawing informalities noted in Paper No. 6, mailed on 10/04/2002, must now be corrected.
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “115” has been used to designate both “other block” and “active map” (see Fig.1). Correction is required.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

- Page 8, line 10 refers to “other blocks 328” of Figure 1. Correction is required.

Specification

5. The objections to the specification of the invention (Abstract, Incorporation by Reference, Claim Objection) have been withdrawn in view of the amendment. However, it is suggested that Applicant should correct the specification so as to address the above drawing objections raised in the Office Action.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-8, 24-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Hitz et al. (US Patent No. 5,819,292).

Hitz anticipated independent claims 1, 26, by the following:

8. As per claims 1, 26, Hitz teaches “a method... recording an active map in said file system of said storage blocks used by said active file system...” at abstract, col. 4, lines 6-43, col. 9, line 50 - col. 10, line 9;

“recording a consistency point in said file system including a consistent version of said file system at a previous time, said consistency point including a copy of said active map at said previous time” at abstract, col. 4, lines 6-43, col. 9, line 50 - col. 10, line 19;

“refraining from writing data to storage blocks in response to said active map; and at least one of said copy of said active map at said previous time” at Fig. 11 A-D, col. 4, lines 6-43, col. 9, line 50 to col. 10, line 19, col. 11, line 1 to col. 12, line 58.

9. As per claims 2, 27, Hitz teaches “determining a logical union of said storage blocks used by one or more of said copies of said active map at said previous time” at abstract, col. 4, lines 6-43, col. 19, lines 20-40.

10. As per claims 3, 28, Hitz teaches “determining a subset of said storage blocks used by one or more of said copies of active map at said previous time” at abstract, Fig. 11 A-D, col. 4, lines 6-43, col. 8, lines 8-56, col. 9, line 50 to col. 10, line 19, col. 11, line 1 to col. 12, line 58.

11. As per claims 4, 29, Hitz teaches “file system is a WAFL file system ” at col. 5, lines 48-59, col. 8, lines 16-39, col. 11, lines 6-27.

12. As per claims 5, 30, Hitz teaches “active map at said previous time is a snapmap” at Fig. 11 A-D, col. 4, lines 6-43, col. 9, line 50 to col. 10, line 19, col. 11, line 1 to col. 12, line 58.

13. As per claims 6, 31, Hitz teaches “removing a root inode of snapmap using a snap delete” at col. 7, lines 1-27, col. 10, lines 18-56, col. 13, lines 2-24.

14. As per claim 7, 32, Hitz teaches “steps for determining not to write to a block after said step of removing, provided the previous or next snapmap uses said block” at col. 4, lines 18-20, col. 11, lines 29-39, col. 7, lines 5-26, col. 19, lines 20-40.

15. As per claim 8, 33, Hitz teaches “steps of copying modified data to a new block and saving old data in a current data block so as to implement a copy-on-write mechanism” at col. 11, line 6-col. 12, line 38, col. 16, lines 10-21.

16. As per claims 24, 34, Hitz teaches the step of generating a summary map (i.e. the inomap,) responsive to at least one said copy of said active map at said previous time" at col. 10, lines 18-48.

17. As per claims 25, 35, Hitz teaches the step of refraining from writing data to said storage blocks is accomplished by being responsive to said summary map (i.e. the inomap)" at col. 10, lines 18-48, Fig. 13B.

Response to Arguments

18. Applicant's arguments filed 2/10/2003 have been fully considered but they are not persuasive.

Applicant argues that:

(a) Hitz's reference is not seen to disclose/suggest claim 1's feature of refraining from writing data to storage blocks in response to an active map and at least one copy of the active map at a previous time.

(b) New claims 24 and 25 concern use of a summary map that is generated responsive to at least one copy of an active map at a previous time, which is believed to distinguish the claimed invention from Hitz.

The Examiner respectfully disagrees for the following reasons:

Per (a), Hitz teaches "the present invention prevents new data written to the active file system (i.e. the storage blocks) from overwriting old data (i.e. a previous time) that is a part of a

snapshot(s)" at col. 4, lines 33-35. It is thus clearly shown by Hitz the step of refraining from writing data to storage blocks in response to an active map and at least one copy of the active map at a previous time.

Per (b), Hitz does teach the summary map (i.e. the inode map) at col. 10, lines 18-48. According to the specification, the summary map is a file whose data blocks contained a bit map wherein each bit describes the allocation status of one block in the system. Similarly, Hitz teaches "another meta-data file is the inomap that serves as a free inode map, the inomap file contains an 8 bit entries for each block in the inode file, each entry is a count of allocated inodes in the corresponding block of the inode file" at col. 10, lines 18-48. Furthermore, Hitz shows in Fig. 13B the use of a summary map that is generated responsive to at least one copy of an active map at a previous time (i.e. D' in Fig. 18C). Therefore, the claim language as presented is still read on by the Hitz reference at the cited paragraph in the claim rejections.

Conclusion

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (703) 305-3203. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (703) 305-9790. The fax number to this Art Unit is (703) 746-7238.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.


Miranda Le
May 1, 2003


GRETA ROBINSON
PRIMARY EXAMINER